

## BRIDGE TEAM WORKING GROUP EXECUTIVE SUMMARY

### **Sub Regional Tier Guidelines for Bridge Projects**

The North Carolina bridge inventory is aging at a rate, which exceeds the current bridge replacement program. Travel demand on the state's transportation system is increasing while the cost of doing business is rising and the transportation funding is remaining relatively flat. In an effort to minimize the amount of approach work and to maximize the limited funds available for the bridge program, representatives from the Bridge Maintenance Unit, Construction, Operations, Planning, and Highway Design Branch Units evaluated the Department's bridge replacement program and established bridge replacement design criteria that maintain current operating conditions without compromising safety.

The Sub Regional Tier Guidelines for Bridge Projects establishes the controlling design elements for new and reconstructed bridges on the North Carolina Highway System designated as minor collectors, local and/or secondary roads. Engineering judgment must be applied during project development, while considering the site-specific conditions, to achieve desirable levels of service and assure safety of the traveling public. The requirements of these guidelines can be adjusted to meet site specific constraints if documented through the design exception process. Each bridge project shall provide a safe and economical design, while maintaining or improving the operating conditions at the site.

The Subregional Tier Design Guidelines for NCDOT Bridge Projects allow planners, designers, bridge construction engineers and roadway construction engineers to minimize changes in vertical grade, structure length and width, approach roadway limits and right of way for each bridge replacement project. It will provide bridge replacement projects that will "fit" specific site conditions. Incorporating these guidelines into our business practices will save time and money in project and program delivery and the North Carolina Department of Transportation will be better able to meet North Carolina's 21<sup>st</sup> century transportation needs.

Ten current projects were re-designed to provide \$1,783,000 savings in future construction costs. Nineteen additional projects with completed designs are being screened for potential savings. Two active bridge replacement projects in construction converted concrete bridge deck overlay to asphalt overlay for a savings of \$60,000. Four projects converted the concrete bridge deck overlay to asphalt overlay during the combined field inspection for a savings of \$120,000. The total savings to date is \$1,963,000.

All local road bridge replacements scheduled for letting in 2012, 2013, 2014, and beyond will be planned, designed and constructed in accordance with the Subregional Tier Design Guidelines.

Updated 11/10/08